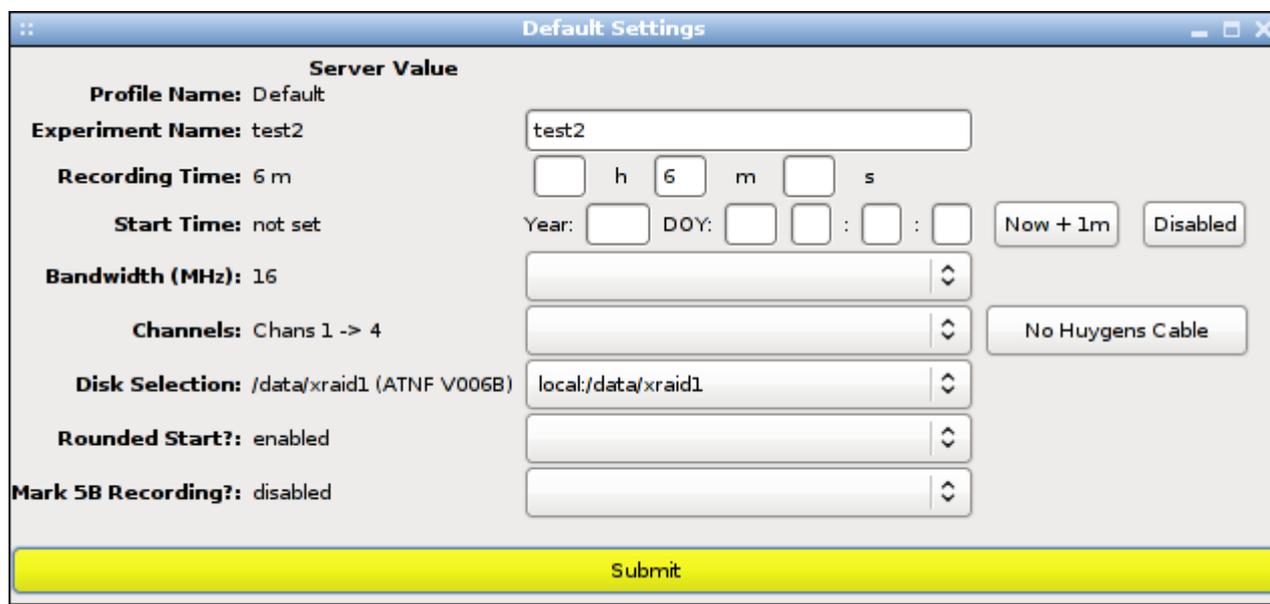
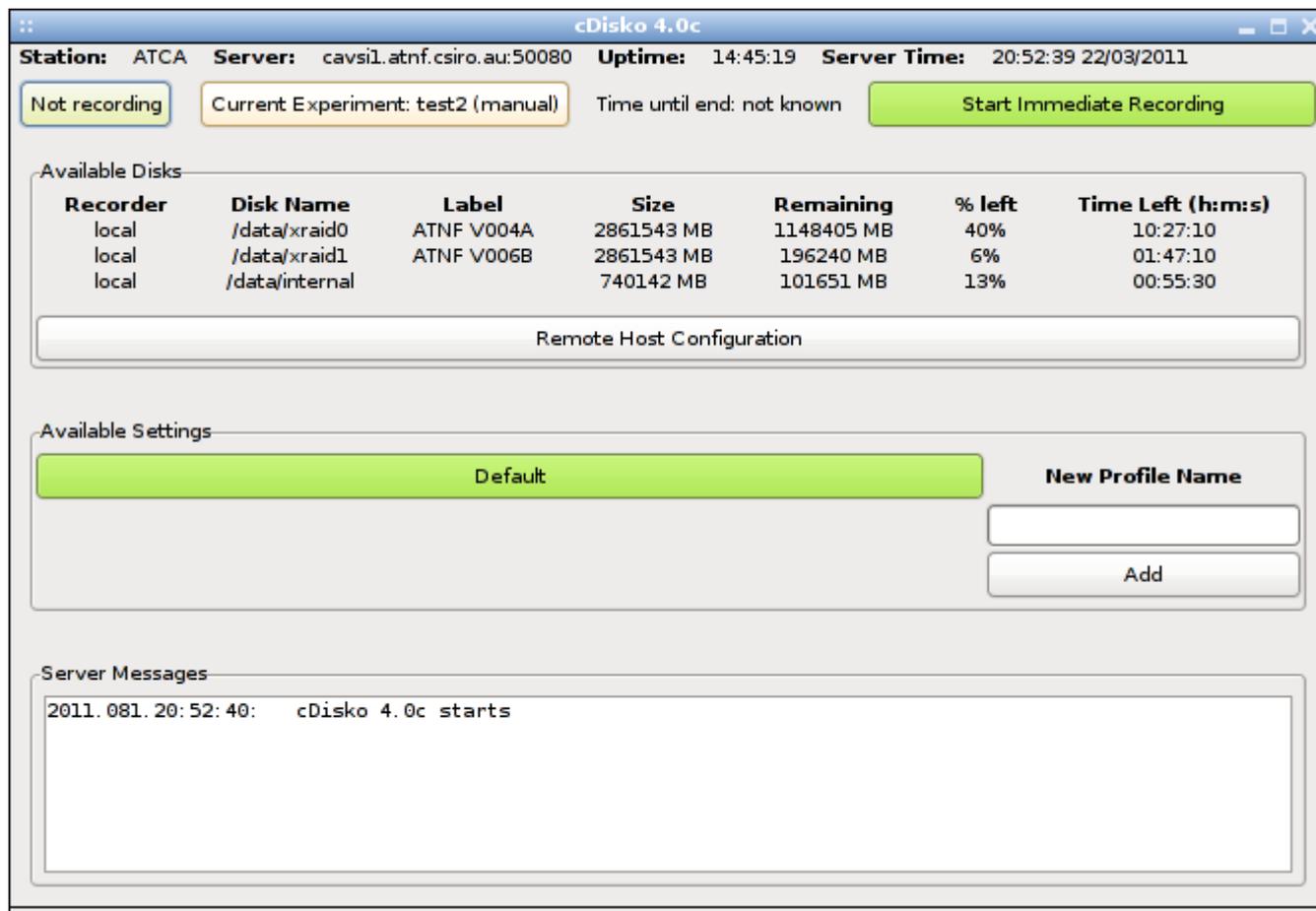


# cDisko 4.0c User Manual

cDisko is a control and monitoring client for the LBA recorder\_server. The latest version 4 of this code is a complete rewrite to eliminate many of the bugs of the old cDisko, and to better support some new features of recorder\_server.

The look of cDisko has changed a great deal. When running cDisko 4 you will see two windows appear, both of which are shown below.



The window with the title “cDisko 4.0c” is the main window, and is used to start and stop recordings, manage the available settings, shows the available disks and has a log window to show the results of cDisko and recorder\_server actions. The “Default Settings” window is used to set the parameters for a normal recording. If for any reason the “Default Settings” window gets closed, hit the “Default” button in the “Available Settings” frame in the main window to make it reappear.

This manual will now give a few examples of common LBA recording tasks to illustrate how to use cDisko.

## A normal local recording

- Set the parameters for the recording in the “Default Settings” window.
- Put the name of the experiment in the text box next to the “Experiment Name” label.
- Set the recording time by specifying the number of hours, minutes and seconds in the three text boxes next to the “Recording Time” label.
- If the recording is to start at a specific time, fill in this time in the text boxes next to the “Start Time” label and press the “Disabled” button once - it should read “Enabled” after this. You may use the “Now + 1m” button to make cDisko fill these fields in with the time one minute from now.
- Select the bandwidth per channel using the dropdown box next to the “Bandwidth (MHz)” label.
- Select which channels to record using the dropdown box next to the “Channels” label. If you require a mode that requires the Huygens cable, press the “No Huygens Cable” button once - it should read “Huygens Cable” after this, and new channel modes will be available.
- Choose the disk to record to from the dropdown box next to the “Disk Selection” label. You may choose a specific disk, or choose “any available disk” to let recorder\_server choose the most appropriate disk at record time, or choose “any local disk” to limit the choice to a disk directly attached to the recorder. If the only available disks are directly attached, “any available disk” will function identically to “any local disk”.
- Choose to enable or disable the rounded start functionality using the dropdown box next to the “Rounded Start?” label. If enabled, all files will start on a 10 second boundary, otherwise files may start at any arbitrary time.
- Choose whether or not to record in Mark5B format by using the dropdown box next to the “Mark 5B Recording?” label.
- Once you are happy with your new settings, press the “Submit” button to configure recorder\_server. Any fields that were not configured by you (an empty text field or a non-selected dropdown box) will not be changed.
- After you have submitted, wait up to 20 seconds to ensure that the values indicated in the “Server Value” column have been updated to reflect the settings you made. If a setting you tried to make has failed for some reason, there may be a red error message in the “Server Messages” frame in the main window describing what went wrong.
- Notice in the main window that the “Default” button in the “Available Settings” frame in the main window is coloured green, the same colour as the “Start Recording” button at the top right. This indicates that if you were to start recording, it will use the default settings. If you have not set a start time, the recording button will say “Start Immediate Recording”, while if you have it will say “Start Delayed Recording”.
- Press the green “Start Recording” button to start the recording. After a few seconds a new window will appear.

**Recording Status**

Recording Settings

<b>Experiment:</b>	test2	<b>Duration:</b>	6 m
<b>Bandwidth (MHz):</b>	16	<b># of bits:</b>	8

Output Disks

Recorder	Disk Name	Label	Size	Remaining	% left	Time Left (h:m:s)	Compression
local	/data/xraid1	ATNF V006B	2861543 MB	192580 MB	6%	01:45:10	xxxx

Recording Summary

<b>Last 1PPS:</b>	OK
<b>Missed 1PPS:</b>	1 times from last 5
<b>Last BIGBUF:</b>	487 MB (100%)
<b>Last block:</b>	31000
<b>Last file:</b>	test2_At_081_220230.lba

Statistics

Chan 0:	0.00	50.00	50.00	0.00
Chan 1:	0.00	50.00	50.00	0.00
Chan 2:	0.00	50.00	50.00	0.00
Chan 3:	0.00	50.00	50.00	0.00

The main window will also now appear like:

**cDisko 4.0c**

Station: ATCA Server: cavsi1.atnf.csiro.au:50080 Uptime: 00:03:26 Server Time: 22:04:05 22/03/2011

Recording Current Experiment: test2 (manual) Time until end: 00:03:35 Stop Recording

Available Disks

Recorder	Disk Name	Label	Size	Remaining	% left	Time Left (h:m:s)
local	/data/xraid0	ATNF V004A	2861543 MB	1148405 MB	40%	10:27:10
local	/data/xraid1	ATNF V006B	2861543 MB	190023 MB	6%	01:43:46
local	/data/internal		740142 MB	101651 MB	13%	00:55:30

Remote Host Configuration

Available Settings

Default New Profile Name

Add

Server Messages

```

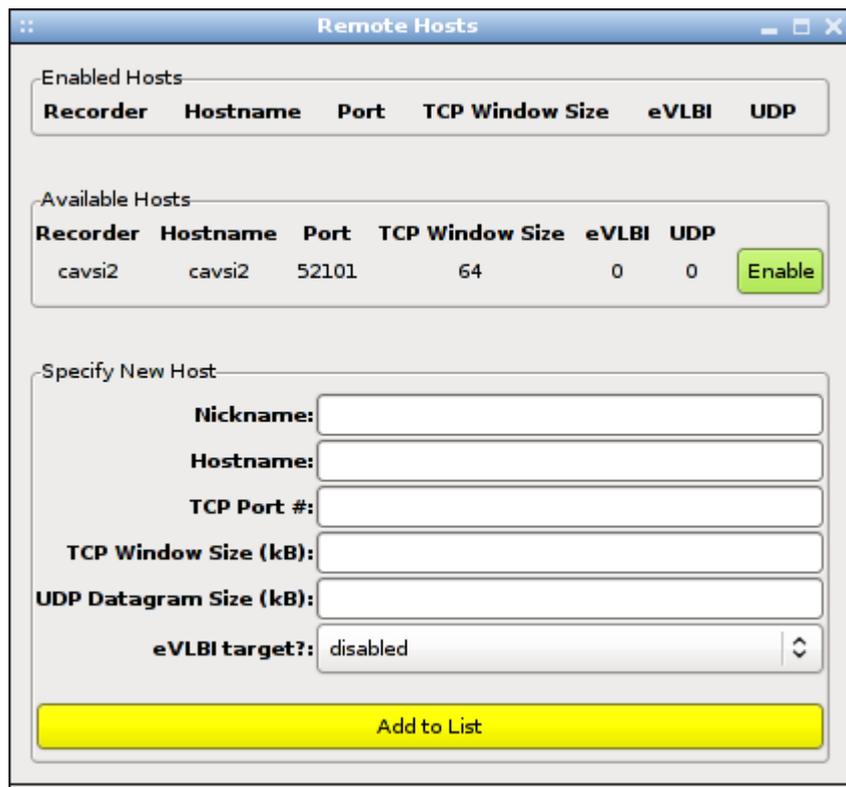
2011.081.22:01:37: Recorder started.
2011.081.22:01:51: +++SERVER WARNING+++
2011.081.22:01:51: ERROR: 1PPS transition ABSENT (00) at 20110322:220150
2011.081.22:01:51: ++++++
2011.081.22:02:02: ERROR: 1PPS transition ABSENT (00) at 20110322:220150
2011.081.22:02:12: ERROR: 1PPS transition ABSENT (00) at 20110322:220150

```

- If the “Recording Window” status window is not on your screen, you can press the “Recording” button at the top left (or the “Not recording” button if you aren't currently recording) to make it appear. To stop the recording you should press the red “Stop Recording” button.

## A normal remote recording

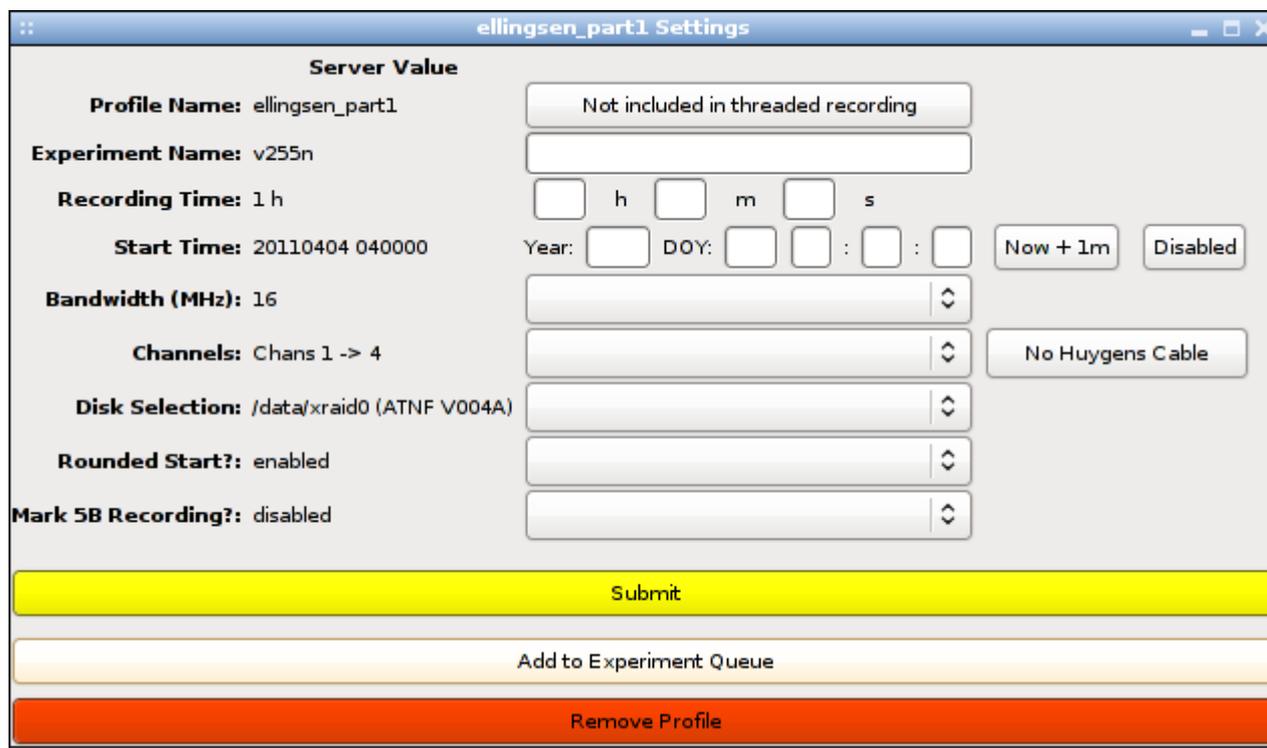
- Press the “Remote Host Configuration” button in the “Available Disks” frame in the main window to bring up the “Remote Hosts” window:



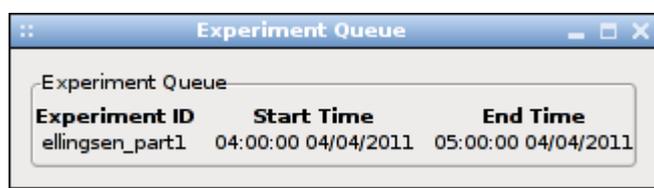
- Any hosts that are preconfigured in your `~/ .disko_config` file will appear in the “Available Hosts” frame, along with an “Enable” button. If you want to specify another remote recorder to use, fill in its details in the “Specify New Host” frame and press the “Add to List” button. If the supplied information is sufficient, these fields will clear and the host will appear in the “Available Hosts” frame.
- To enable the use of disks attached to the remote host, click the “Enable” button next to the desired host. After 20-30 seconds, the host should appear in the “Enabled Hosts” frame, and new disks should appear in the “Available Disks” frame in the main window.
- You should now follow the instructions for a normal local recording to set the required parameters for the recording, but instead of selecting a local disk, either select a remote disk from the “Disk Selection” dropdown box, or the “any remote disk” option to let `recorder_server` choose the most appropriate remote disk to use.
- Recording should proceed as for a local disk recording.

## Setting up automatic experiment recording

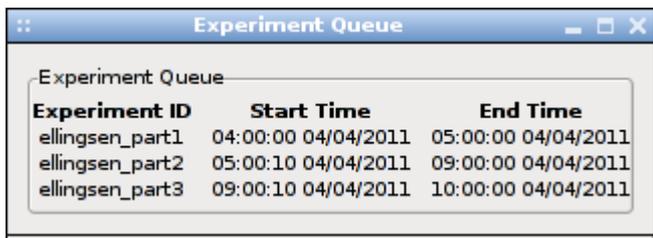
- You know the problem: Ellingsen has made his schedule and we have to change what we're recording 10 times every hour :P The new cDisko and recorder\_server make it easier to schedule these changes in advance and let the recorder do all the work for us.
- Start by specifying the parameters that each part of the recording have in common in the "Default Settings" window: the experiment name, the bandwidth, the disk to record to, and submitting these to the server.
- Now go to the main window, and create a new recording profile by putting a name in the "New Profile Name" text box and pressing the "Add" button. The name can be anything, but should be descriptive, so let's call it "ellingsen\_part1". A new button labelled "ellingsen\_part1" should appear under the "Default" button within 20 seconds. Click this button to bring up the settings associated with that profile:



- This window looks similar to the "Default Settings" window but has a number of other options included. We now edit the settings for part 1, such as the recording time, the start time and the channels to be recorded, and press the "Submit" button.
- Now press the "Add to Experiment Queue" button. After a few seconds, the label should change to "Remove from Experiment Queue" and the "ellingsen\_part1" button should change to a whitish colour. If something is wrong with the information, you will get error messages in the main window.
- Press the whitish "Current Experiment" button at the top of the main window to bring up the "Experiment Queue" window:



- This window shows the order that the experiments will run in, and shows the “Experiment ID” (the name of the profile corresponding to the recording settings), the start time and the end time.
- Repeat this process of creating a new profile and adding it to the experiment queue for all the recording changes that are required. Note that a recording must start at least 10 seconds after the previous recording finishes. After completion, your “Experiment Queue” window might look something like this:



- This experiment queue will now execute automatically without further user involvement. The recorder will start and stop at the indicated times, and cDisko will display the current status as usual. You may notice that the “Duration” indicated in the “Recording Status” window may be a bit longer than you requested: this is to ensure that the recording goes for at least as long as it is needed to. You should not be surprised therefore if you receive messages from the server saying that the experiment stopped slightly earlier than scheduled: this is normal behaviour.

## A recording with more than one simultaneous destination

- When you want to record to two places at once, you can use the “thread” capability of the new vsib\_record and recorder\_server.
- Begin by setting up both destinations: usually one or both destinations will be remote, so you'll need to follow the instructions above to enable a remote recorder.
- Set up the default settings with the recording time, recording start time, bandwidth and experiment name for the experiment: all these parameters will need to be identical for all threads.
- Add a new profile for each thread you want (following the instructions from the experiment example) and set the output disk and channel selection in each thread. You may record a different subset of data to each destination.
- To indicate that you would like to record multiple threads, you need to press the “Not included in threaded recording” button in each profile window, after which the button will say “Included in threaded recording”. The appropriate buttons in the “Available Settings” frame in the main window will also turn green (and the “Default” button will lose its green background) to indicate which profiles are going to participate in the threaded recording.
- The “Start Recording” button will now read “Start Threaded Recording”, and you should hit this button if you want to begin the recording.
- The “Recording Status” window will now show more than one disk in its “Output Disks” frame, along with the compression going to each disk:

**Recording Status**

Recording Settings

<b>Experiment:</b>	vtest	<b>Duration:</b>	5 m
<b>Bandwidth (MHz):</b>	16	<b># of bits:</b>	8

Output Disks

Recorder	Disk Name	Label	Size	Remaining	% left	Time Left (h:m:s)	Compression
cavsi2	/data/xraid0	ATNF V009B	2861543 MB	64407 MB	2%	00:35:10	xoxo
local	/data/xraid1	ATNF V006B	2861543 MB	173312 MB	6%	01:34:39	xxxx

Recording Summary

<b>Last 1PPS:</b>	OK
<b>Missed 1PPS:</b>	0 times from last 3
<b>Last BIGBUF:</b>	487 MB (100%)
<b>Last block:</b>	
<b>Last file:</b>	vtest_At_082_063600.lba

Statistics

Chan 0:	3.34	45.20	47.92	3.53
Chan 1:	3.46	46.56	46.65	3.34
Chan 2:	17.03	32.98	32.97	17.02
Chan 3:	16.74	33.23	32.75	17.27

- You may stop a threaded recording as usual by hitting the “Stop Threaded Recording” button in the main window.

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